

Work Order ID 160735

Wednesday, May 03, 2017 10:51:57 AM

160735

Item ID: D206-642-151

Accept

N9000040100

Setup Start

NS1

Revision ID:

Item Name: Replacement Skidube, Low Gear with Run-on Landing Fits LH or RH

Stop

NS2

Start Date:

5/17/2017

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017

Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED/C

Approvals:

Process Plan:

21

Date: MAY 03 2017

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

NR1

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3804

A(DEO)

IIN-D206-642

Q

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc. Control - USB or Paperwork

Photocopy bluefile & type labels per PPP D206-642-151

CHG004

Scrapped & un

DAS
21
9-88

DQA:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION Rework ☐ ☐ ☐ Scrap ☐ ☐ ☐ Use-as-is ☐ ☐ ☐ Suspected Unapproved ☐ ☐ ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ ☐ ☐ ☐ ☐ Machining ☐ ☐ ☐ ☐ ☐ Thermoforming ☐ ☐ ☐ ☐ ☐ Large Fab ☐ ☐ ☐ ☐ ☐		Cross tube ☐ ☐ ☐ ☐ ☐ Small Fab ☐ ☐ ☐ ☐ ☐ Finishing ☐ ☐ ☐ ☐ ☐ Composite ☐ ☐ ☐ ☐ ☐		Water Jet ☐ ☐ ☐ ☐ ☐ Prod. Eng. Coord. ☐ ☐ ☐ ☐ ☐ Rec/Store/Packaging ☐ ☐ ☐ ☐ ☐ Supplier ☐ ☐ ☐ ☐ ☐		Engineering ☐ ☐ ☐ ☐ ☐ Quality ☐ ☐ ☐ ☐ ☐ Other ☐ ☐ ☐ ☐ ☐		MRB (QS1042) Approval ☐ ☐ ☐ ☐ ☐	
Date: _____		Step #: _____		QTY Effective: _____		Disposition		Completed By		Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	
Description Work Order Deviation													
Root.Cause													
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong								
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions								
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance								
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect								
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing								
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved								
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing								
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish								
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread								
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence								
Past Expiry Date	Manufacturing Process												
Misidentified	Past Due												
OTHER: _____													

Work Order ID 160735

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NS1

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Stop

NS2

Start Date: 5/17/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017 Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED/C

Approvals: Process Plan:

Date: Tooling:

Date:

QC: Date: SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number Insp.
Stamp

110

111

Skidtubes

Memo

0.90

Skidtubes

1-Debur Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D3804

3- Weld Fwd Cap as per Dwg D3804. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty Part Number Description Batch
A/R Aluminum Rod

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg D3804 from front of tube and Debur

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D3804

7-Open holes for Aft end cap as per Dwg D3804 with #30 Drill Bit using DT8025.

8-Drill pilot holes using D8166 & DT8169D & DT9771.

9-Locate DT8732A from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732B & D206-642-241-TL, then locating doubler off of 3/16" holes, cleco DT8732A & doubler leaving DT8732B for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATEWork Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____ Date: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS QTY Effective : _____ Step #: _____ Disposition: _____ MRB (QS1042) Approval _____		Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																																																																										
Description Work Order Deviation Disposition FAULT CATEGORY <table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <th colspan="2">Root Cause</th> <th colspan="10">Fault Category</th> </tr> <tr> <td rowspan="10"> Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td>No Re-verification ☐</td> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Operator ☐</td> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Training ☐</td> <td>Grimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Manufacturing Process ☐</td> <td colspan="5"></td> </tr> <tr> <td>Past Due ☐</td> <td colspan="5" style="text-align: right;">OTHER : _____</td> </tr> </table>						Root Cause		Fault Category										Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Training ☐	Grimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Manufacturing Process ☐						Past Due ☐	OTHER : _____				
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Work Order ID 160735

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160735

Page 3

Item ID: D206-642-151

Accept

Revision ID:

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017 Start Qty: 1.00

1

Required Date: 5/23/2017 Req'd Qty: 1.00

1

Reference: SCHEDULED/C

Cust Item ID:
Customer:

N9000040100

Setup Start *NS1*

Stop *NS2*

Approvals: Process Plan:

Date: Tooling:

Date:

QC: Date: SPC (Y/N):

Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D3804

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D3804. Leave 0.070" wall minimum.

15-C'sink GHW rivet holes as per Dwg D3804

16- Open Aft cap hole #6.
****no wearplate holes for this skidtube****

17- Open x-bolt spacer holes to finished size
DO NOT OPEN HOLES OF DETAIL B, OF DEO D3804-A-1

18- Deburr tube as per QSI 18 and blow out chips from inside the tube

BE17-03-15

DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS		MR8 (QSI042) Approval	
Date: _____		Step #: _____		QTY Effective: _____			
Description Work Order Deviation				Disposition			
Completed By							
Lead hand / Supervisor Approval Verification							
QC / QA Coordinator Approval							

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
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Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER: _____									

Work Order ID 160735
Wednesday, May 03, 2017 10:51:57 AM

160735

Item ID: D206-642-151 Accept *N9000040100* Setup Start *NS1*
Revision ID: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH Stop *NS2*
Item Name:
Start Date: 5/17/2017 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 5/23/2017 Req'd Qty: 1.00 *1* Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- All purchased or subcontracted products	0.00							
120	<i>QC6</i> Memo	0.00							
QC	Quality Control								

17-05-18
DAS
9
9-89

130	QC9- Inspect visual per OSI004- Fusion Welds	0.00							
130	Memo	0.00							
QC	Quality Control								

17-05-13
DAS
9
9-89

140	Chemical Conversion Coat per OSI005 4.1	0.00							
140	Memo	0.00							
QC	Quality Control								

17-05-29
DAS
9
9-89

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				MRB (QSI042) Approval																																																																												
Date: _____		Step #: _____		QTY Effective: _____		Water Jet		Engineering																																																																												
		Rework		Skid-tube		Cross tube		Quality																																																																												
		Scrap		Machining		Small Fab		Other																																																																												
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Work Order ID 160735

Wednesday, May 03, 2017 10:51:57 AM

160735

Item ID: D206-642-151

Accept

Revision ID:

N900040100

Setup Start

N.S1

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Stop

N.S2

Start Date: 5/17/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017 Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED/C

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept
Qty

Reject
Qty

Reject
Number Insp.
Stamp

150

QC7-Inspect Chemical Conversion Coat

0.00

150

Memo

0.01

QC

Quality Control

160

160

Skidtubes

0.00

Skidtubes

Memo

1.54

Skidtubes

1-Open holes of detail B to finished size as per Dwg DEO D3804, (without cutting fluid)

2-C'sink one crossbolt spacer hole as per Dwg D3804 DEO Detail B(without cutting fluid)

3-Deburr and blow out all chips from inside the tube

1 8E 170531

1 8E 170531

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATEWork Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____ Date: _____ Step #: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval											
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Completed By												Lead hand / Supervisor Approval Verification											
QC / QA Coordinator Approval																							

Root Cause												FAULT CATEGORY											
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐				No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Sinkers ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrping Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			

OTHER: ☐

Work Order ID 160735

Wednesday, May 03, 2017 10:51:57 AM

160735

Item ID: D206-642-151

Accept

Revision ID:

N9000040100

Setup Start *NS1*

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Stop *NS2*

Start Date: 5/17/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017 Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED/C

Approvals: Process Plan:

Date: Tooling:

Date:

QC: Date: SPC (Y/N): Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code

Accept Qty

Reject Qty

Reject Number Insp.
Stamp

180

1RN

Skidtube

Skidtube

Memo

0.88

1- Locate, install and rivet doublers as per Dwg D3804. Micro-shave rivets as required

2- Bond D2654-1 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting

Start Date: Time:

Finish Date: 17/05/17 Time: 3:20 PM

Pick:

Qty Part Number Description Batch

A/R SikaFlex-291 137526

SikaFlex expire date: 18-04-21

190

1QN

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.02

8/6 17-05-31

mls 17/05/01

17-06-06

DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: _____

Work Order update only ☐

Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering	
Part No. _____		Cross tube		Water Jet	
NCR No. _____		Skid-tube		Prod. Eng. Coord.	
		Machining		Rec/Store/Packaging	
		Thermoforming		Supplier	
		Large Fab		Composite	
Date: _____		Step #: _____		QTY Effective: _____	
Description Work Order Deviation		Disposition		MARB (QS1042) Approval	
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment	No Re-verification	Temperature/Cure	Power Loss/Surge	Positioned Wrong	
Design	Operator	Set-up	Folio/Program	Outside Dimensions	
Doc/Data	Offset/Setup	BOM/Route	Grain	Over/Under tolerance	
Equip/Tooling	Supplier	Broken/Damage/Defect	Weld	Part Incorrect	
Handling/Pre	Training	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	
Material	Use for Testing	Contamination	Out of Sequence	Part Moved	
Internal Transport	Poor Information	Countersink	Off-set	Drawing	
Tribal Knowledge	Rushing	Cut Too Short	Mislabeled	Finish	
LOA	Product Improvement	Instructions Incomplete/Unclear	Fit/Function	Misread	
Substation	Process Improvement	Drill Holes	Misaligned/off center	Turning Sequence	
Past Expiry Date	Manufacturing Process				
Misidentified	Past Due				
OTHER: _____					

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No.: _____ NCR No.: _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other		AGAINST DEPARTMENT/PROCESS	
Date: _____ Step #: _____		QTY Effective: _____			
Description Work Order Deviation		Disposition			
Completed By		Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval		MRB (QS1042) Approval			

Root Cause		FAULT CATEGORY												
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong	Outside Dimensions	Over/Under tolerance	Part Incorrect	Part Lost/Missing	Part Moved	Drawing	Finish	Misread	Turning Sequence
Design	Operator	Bending	Set-up	Folio/Program										
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain										
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld										
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled										
Material	Use for Testing	Cuffs	Contamination	Out of Sequence										
Internal Transport	Poor Information	Crushing	Countersink	Off-set										
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled										
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function										
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center										
Past Expiry Date	Manufacturing Process													
Misidentified	Past Due													
		OTHER : _____												

160735

Page 8

Accept

N900040100

NST

NS*

$$\frac{*}{*}$$

*
—
*

Customer:

NR1

Date:

NR1

Insp.

0.00

00.0

ORDER

JUN 15 2017

0.00

0.00

JUN 15 2017

00.00

0.02

DAS
38
9-88

JUN 15 2017

MO 18 Jun 2019



DQA: _____ Date: _____

QA Closed: _____

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

Work Order: <u>160735</u>		AGAINST DEPARTMENT/PROCESS		Engineering ☐ Quality ☐ Other ☐	
Part No. <u>D206-642-151</u>		Cross tube ☐ Small Fab ☐ Finishing ☒ Composite ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	
NCR No. <u>19-7177</u>		Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	
Date: <u>17.07.13</u>		QTY Effective: <u>1</u>		MRB (QS1042) Approval DAS <u>9</u> 9-89 <u>17.07.13</u>	
Step #: <u>240</u>		Disposition			
Description Work Order Deviation		Scrap destroy.			
Dent found on tube from falling on the ground.		Preventive action ↳ install safety chain on rack ↳ relocate air hose in more convenient place.			
R.C. air hose caught into the skid tube that was in the alodine rack causing it to fall on the ground. No safety chains from preventing tube to fall from rack.		Lead hand / Supervisor Approval Verification <u>17-09-18</u>			
QC / QA Coordinator Approval DAS <u>9</u> 9-89 <u>17.07.21</u>		QC / QA Coordinator Approval DAS <u>9</u> 9-89 <u>17.07.21</u>			
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☒ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐			
Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damaged Defect ☒ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐			
OTHER: _____		OTHER: _____			

Work Order ID 160735

160735

Page 10

Wednesday, May 03, 2017 10:51:57 AM

Item ID: D206-642-151

Accept

N9000040100

Setup Start

NS1

Revision ID:

Stop

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017

Req'd Qty: 1.00

Customer:

Reference: SCHEDULLED/C

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

HandFinishing

0.00

970

HandFinish

Memo

1.27

Hand Finishing

1-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D3804. Clean excess adhesive.

2-Install D2680-041 Nut Plate as per Dwg D2650

280

HandFinishing

0.00

990

HandFinish

Memo

0.92

Hand Finishing

1-Install D2646 Air Cap and seal with Sikaflex. Clean excess adhesive A/R Sikaflex-291
Sikaflex expire date: _____

2-Install wearplate as per dwg

2-Wing Walk as per Dwg D3804 and OSI 005 4.4

Batch: _____

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

☐

Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering																																																																									
Part No. _____		Cross tube		Water Jet																																																																									
NCR No. _____		Skid-tube		Prod. Eng. Coord.																																																																									
Date: _____		Machining		Rec/Store/Packaging																																																																									
Step #: _____		Thermoforming		Supplier																																																																									
Description Work Order Deviation		QTY Effective: _____		MRB (QSI042) Approval																																																																									
Disposition		Completed By		Lead hand / Supervisor Approval Verification																																																																									
Root Cause		FAULT CATEGORY		QC / QA Coordinator Approval																																																																									
<table border="1"> <tr> <td>Environment</td> <td>No Re-verification</td> <td>Pressure/Forced</td> <td>Temperature/Cure</td> <td>Power Loss/Surge</td> <td>Positioned Wrong</td> </tr> <tr> <td>Design</td> <td>Operator</td> <td>Bending</td> <td>Set-up</td> <td>Folio/Program</td> <td>Outside Dimensions</td> </tr> <tr> <td>Doc/Data</td> <td>Offset/Setup</td> <td>Centre Not Concentric</td> <td>BOM/Route</td> <td>Grain</td> <td>Over/Under tolerance</td> </tr> <tr> <td>Equip/Tooling</td> <td>Supplier</td> <td>Cracks</td> <td>Broken/Damage/Defect</td> <td>Weld</td> <td>Part Incorrect</td> </tr> <tr> <td>Handling/Pre</td> <td>Training</td> <td>Crimp/Kink/Ripple/Wave</td> <td>Inspection Incomplete/Unqualified</td> <td>Wrong Stock Pulled</td> <td>Part Lost/Missing</td> </tr> <tr> <td>Material</td> <td>Use for Testing</td> <td>Cuffs</td> <td>Contamination</td> <td>Out of Sequence</td> <td>Part Moved</td> </tr> <tr> <td>Internal Transport</td> <td>Poor Information</td> <td>Crushing</td> <td>Countersink</td> <td>Off-set</td> <td>Drawing</td> </tr> <tr> <td>Tribal Knowledge</td> <td>Rushing</td> <td>Heat Treat</td> <td>Cut Too Short</td> <td>Mislabeled</td> <td>Finish</td> </tr> <tr> <td>LOA</td> <td>Product Improvement</td> <td>Wave/Twist in Tube</td> <td>Instructions Incomplete/Unclear</td> <td>Fit/Function</td> <td>Misread</td> </tr> <tr> <td>Substation</td> <td>Process Improvement</td> <td>Marks/Chatter</td> <td>Drill Holes</td> <td>Misaligned/off center</td> <td>Turning Sequence</td> </tr> <tr> <td>Past Expiry Date</td> <td>Manufacturing Process</td> <td colspan="2">OTHER: _____</td> <td colspan="2"></td> </tr> <tr> <td>Misidentified</td> <td>Past Due</td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>		Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions	Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect	Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved	Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing	Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish	LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread	Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence	Past Expiry Date	Manufacturing Process	OTHER: _____				Misidentified	Past Due								
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong																																																																								
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Misidentified	Past Due																																																																												

Work Order ID 160735

Wednesday, May 03, 2017 10:51:57 AM

160735

Item ID: D206-642-151

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Stop

NS2

Start Date: 5/17/2017

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017

Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULED/C

Run Start

NR1

Approvals:

Process Plan:

Date:

Tooling:

Date:

Plan

Accept

Reject

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

Code

Qty

Qty

Reject

Number

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan

Accept

Reject

Reject

Insp.
Stamp

290

QC3- Inspect Part Finish

0.00

290N

QC

Memo

0.01

Quality Control

300

QC5- Inspect part completeness to step on W/O

0.00

300N

QC

Memo

0.02

Quality Control

310

Packaging

0.00

310N

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-151
Location :FG083

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

☐

Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering	
Part No. _____		Cross tube		Water Jet	
NCR No. _____		Small Fab		Prod. Eng. Coord.	
Date: _____		Finishing		Rec/Store/Packaging	
Step #: _____		Composite		Supplier	
DISPOSITION		Skid-tube		MRB (QS1042) Approval	
Rework		Machining			
Scrap		Thermoforming			
Use-as-is		Large Fab			
Suspected Unapproved		QTY Effective: _____			
Description Work Order Deviation		Disposition			
Root Cause		FAULT CATEGORY			
Environment	No Re-verification	Temperature/Cure	Power Loss/Surge	Positioned Wrong	
Design	Operator	Set-up	Folio/Program	Outside Dimensions	
Doc/Data	Offset/Setup	BOM/Route	Grain	Over/Under tolerance	
Equip/Tooling	Supplier	Broken/Damage/Defect	Weld	Part Incorrect	
Handling/Pre	Training	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	
Material	Use for Testing	Contamination	Out of Sequence	Part Moved	
Internal Transport	Poor Information	Countersink	Off-set	Drawing	
Tribal Knowledge	Rushing	Cut Too Short	Mislabeled	Finish	
LOA	Product Improvement	Instructions Incomplete/Unclear	Fit/Function	Misread	
Substation	Process Improvement	Drill Holes	Misaligned/off center	Turning Sequence	
Past Expiry Date	Manufacturing Process				
Misidentified	Past Due				
OTHER: _____					
Completed By		Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	

Work Order ID 160735

160735

Page 12

Wednesday, May 03, 2017 10:51:57 AM

Item ID: D206-642-151

Accept

N9000040100

Setup Start

N.S1

Revision ID:

Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Stop

N.S2

Start Date: 5/17/2017

Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/23/2017

Req'd Qty: 1.00

1

Customer:

Reference: SCHEDULE/C

Run

Start

NR1

Approvals:

Process Plan:

Date:

Tooling:

Date:

SPC (Y/N):

Stop

QC:

Date:

SPC (Y/N):

Date:

SPC (Y/N):

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

320

QC21 - Final Inspection - Work Order Release

0.00

320

Memo

0.10

Quality Control

Good

MR

SEP 18 2017

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only

☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				Engineering	
Part No. _____		Rework		Skid-tube		Cross tube		Water Jet	
NCR No. _____		Scrap		Machining		Small Fab		Prod. Eng. Coord.	
Date: _____		Use-as-is		Thermoforming		Finishing		Rec/Store/Packaging	
Step #: _____		Suspected Unapproved		Large Fab		Composite		Supplier	
QTY Effective: _____									
Description Work Order Deviation		Disposition						MRB (QSI042) Approval	
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		Pressure/Forced		Temperature/Cure		Power Loss/Surge		Positioned Wrong	
Environment		Bending		Set-up		Folio/Program		Outside Dimensions	
Design		Centre Not Concentric		BOM/Route		Grain		Over/Under tolerance	
Doc/Data		Cracks		Broken/Damage/Defect		Weld		Part Incorrect	
Equip/Tooling		Crimp/Kink/Ripple/Wave		Inspection Incomplete/Unqualified		Wrong Stock Pulled		Part Lost/Missing	
Handling/Pre		Cuffs		Contamination		Out of Sequence		Part Moved	
Material		Crushing		Countersink		Off-set		Drawing	
Internal Transport		Heat Treat		Cut Too Short		Mislabeled		Finish	
Tribal Knowledge		Wave/Twist in Tube		Instructions Incomplete/Unclear		Fit/Function		Misread	
LOA		Marks/Chatter		Drill Holes		Misaligned/off center		Turning Sequence	
Substation									
Past Expiry Date									
Misidentified									
		OTHER :							

Picklist Print

Wednesday, May 03, 2017 10:52:01 AM

Work Order ID: 160735

160735

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017

Required Date: 5/23/2017

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP REV:A 10.12.08 PER IIN REV:N DD VERF:EC IPP
REV:B 11.09.16 PER IIN REV:O DD VERF:EC IPP Rev:C
12.11.22 now swage per ecn12-679 DD verf:JLM IPP Rev:D 14.04.24
ECN14-520 DD verf:JLM IPP Rev:E 16.04.04 as per
CHG004(ecn16-553) DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4720-1
D4720-1
Spacer

mls 17/06/17

Location
LG001
166411
146840
133773
160468

Loc Qty

Loc Code

231
4
20
207

1

1

06-17-0508

D2620
D2620
Skidtube, 206 Skidtube

Location

Loc Qty

Loc Code

7

7

110 Each

1

1

06-17-0508

D2647
D2647
Cap

Location

Loc Qty

Loc Code

LG001

158418
159737

27

5

22

1
1
1

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				Work Order update only ☐	
Part No. _____		Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	
NCR No. _____		Step #: _____		QTY Effective: _____		MRB (QSI042) Approval			
Date: _____		Description Work Order Deviation		Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY											
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/ Surge	Positioned Wrong										
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions										
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance										
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect										
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing										
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved										
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing										
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish										
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread										
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence										
Past Expiry Date	Manufacturing Process														
Misidentified	Past Due														
OTHER: _____															

Picklist Print

Wednesday, May 03, 2017 10:52:01 AM

Work Order ID: 160735

160735

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017

Required Date: 5/23/2017

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-04

Purchased No

180 Each

251.0000

52 52

**

CR3212-4-04

Cherry Rivet

Location

Loc Qty

Loc Code

LG001

m135056

117

117

ST320

m136263

134

180 Each

3.0000

1

1

D2654-1

Manufactured No

**

D2654-1

Web

Location

Loc Qty

Loc Code

LG002

142852

155562

3

1

2

180 Each

13.0000

2

2

D3286-1

Manufactured No

**

D3286-1

Doubler

Location

Loc Qty

Loc Code

LG001

153975

91158

13

10

3

200 Each

149.0000

1

1

D2649

Manufactured No

**

D2649

Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG001

146930

149833

153814

149

38

6

105

Wednesday, May 03, 2017 10:52:01 AM

Shop Packet Print

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE


DART
AEROSPACE
Work Order update only ☐

Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering Quality Other	
Part No. _____		Cross tube Small Fab Finishing Composite		Water Jet Prod. Eng. Coord. Rec/Store/Packaging Supplier	
NCR No. _____		Skid-tube Machining Thermoforming Large Fab			
Date: _____		Rework Scrap Use-as-is Suspected Unapproved		QTY Effective: _____	
Step #: _____		Disposition		MRB (QS1042) Approval	
Description Work Order Deviation					
Completed By		Lead hand / Supervisor Approval Verification			
QC / QA Coordinator Approval					

Root Cause		FAULT CATEGORY										OTHER :	
Environment	No Re-verification	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Pressure/Forced	Set-up	Folio/Program	Outside Dimensions	Bending	Grain	Over/Under tolerance	Centre Not Concentric	Cracks
Design	Operator	BOM/Route	Weld	Part Incorrect	Broken/Damage/Defect	Wrong Stock Pulled	Out of Sequence	Part Lost/Missing	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Off-set	Contamination	Cuffs
Doc/Data	Offset/Setup	Wrong Stock Pulled	Out of Sequence	Part Moved	Inspection Incomplete/Unqualified	Off-set	Mislabeled	Drawing	Crushing	Heat Treat	Wave/Twist in Tube	Wave/Twist in Tube	Heat Treat
Equip/Tooling	Supplier	Out of Sequence	Off-set	Finish	Contamination	Cut Too Short	Fit/Function	Misread	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Handling/Pre	Training	Off-set	Mislabeled	Turning Sequence	Countersink	Instructions Incomplete/Unclear	Misaligned/off center		Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Material	Use for Testing	Misaligned/off center			Cut Too Short	Drill Holes			Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Internal Transport	Poor Information				Instructions Incomplete/Unclear				Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Tribal Knowledge	Rushing				Drill Holes				Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
LOA	Product Improvement								Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Substation	Process Improvement								Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Past Expiry Date	Manufacturing Process								Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube
Misidentified	Past Due								Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube	Wave/Twist in Tube

Picklist Print

Wednesday, May 03, 2017 10:52:01 AM

Work Order ID: 160735

160735

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017

Required Date: 5/23/2017

Start Qty: 1.00

Required Qty: 1.00

D3286-3

Manufactured No

200

Each

48,000

2

2

D3286-3

Spacer

Location

Loc Qty

Loc Code

LG001

48

109097
91160

11

91160

37

270

Each

19,000

1

1

270

Each

19,000

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DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATEWork Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS				Engineering ☐																																																																																																																																																							
Part No. _____		Rework ☐		Cross tube ☐		Water Jet ☐		Quality ☐																																																																																																																																																							
NCR No. _____		Scrap ☐		Small Fab ☐		Prod. Eng. Coord. ☐		Other ☐																																																																																																																																																							
Date: _____		Use-as-is ☐		Thermoforming ☐		Rec/Store/Packaging ☐																																																																																																																																																									
Step #: _____		Suspected Unapproved ☐		Large Fab ☐		Supplier ☐																																																																																																																																																									
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DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: _____

Work Order update only



Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐		Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		Engineering ☐ Quality ☐ Other ☐		MRB (QS1042) Approval	
Date: _____		Step #: _____		QTY Effective: _____									
Description Work Order Deviation												Disposition	
												Completed By	
												Lead hand / Supervisor Approval Verification	
												QC / QA Coordinator Approval	
Root Cause													
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong								
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions								
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance								
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect								
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing								
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved								
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Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence								
Past Expiry Date	Manufacturing Process												
Misidentified	Past Due												
												OTHER: _____	

Picklist Print

Wednesday, May 03, 2017 10:52:01 AM

Work Order ID: 160735

160735

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017

Required Date: 5/23/2017

Start Qty: 1.00

Required Qty: 1.00

MS2104213

Purchased

No

280

Each

1,546,000

7

7

**

MS2104213

Nut

Location

Loc Qty

Loc Code

FP001

91

m135945

91

GA

464

m134360

102

M136665

362

ST303

991

m137073

11

m137166

3

m137321

977

280

Each

8,0000

1

1

**

D3805-045

Manufactured

No

D3805-045

Run-on Landing Wearplate Aft

Location

Loc Qty

Loc Code

FP002

8

154107

4

155690

4

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



Work Order update only

Work Order: _____		AGAINST DEPARTMENT/PROCESS		Engineering Quality Other																																																									
Part No. _____		Cross tube		Water Jet																																																									
NCR No. _____		Skid-tube		Prod. Eng. Coord.																																																									
Date: _____		Machining		Rec/Store/Packaging																																																									
Step #: _____		Thermoforming		Supplier																																																									
QTY Effective: _____		Large fab		Composite																																																									
Description Work Order Deviation		Disposition		MRB (QSI042) Approval																																																									
Completed By		Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval																																																									
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Page 8

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160735

D206-642-151

Start Date: 5/17/2017

Required Date: 5/23/2017

Start Qty: 1.00

Required Qty: 1.00

2

58.0000

1-800-

LAB CODE

Page 8

Date:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE



Work Order update only

Work Order: _____ Part No. _____ NCR No. _____ Date : _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		Engineering ☐ Quality ☐ Other ☐		MRB (QSI042) Approval ☐	
Step #: _____		QTY Effective : _____		Disposition		Completed By		Lead hand / Supervisor Approval Verification	
Description Work Order Deviation		Description Work Order Deviation		Description Work Order Deviation		Description Work Order Deviation		QC / QA Coordinator Approval	
Root Cause		Fault Category		Fault Category		Fault Category		Fault Category	
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			

Picklist Print

Wednesday, May 03, 2017 10:52:02 AM

Work Order ID: 160735

160735

Parent Item: D206-642-151

D206-642-151

Parent Item Name: Replacement Skidtube, Low Gear with Run-on Landing Fits LH or RH

Start Date: 5/17/2017

Required Date: 5/23/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149D03631

Purchased

No

280

Each

689,0000

7

7

**

NAS114.9D0363.1 Washer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
GA	42		
m134055	42		
ST263	647		
m137061	100		
m137164	547		

DQA:

Date: _____

QA Closed:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATEWork Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____ Date: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		AGAINST DEPARTMENT/PROCESS Engineering ☐ Quality ☐ Other ☐ MRB (QS1042) Approval ☐		Step #: _____ QTY Effective : _____	
Description Work Order Deviation							
Disposition							
Completed By							
Lead hand / Supervisor Approval Verification							
QC / QA Coordinator Approval							

Root Cause		FAULT CATEGORY									
Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong						
Design	Operator	Bending	Set-up	Folio/Program	Outside Dimensions						
Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance						
Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect						
Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing						
Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved						
Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing						
Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish						
LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread						
Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence						
Past Expiry Date	Manufacturing Process										
Misidentified	Past Due										
		OTHER : _____									

ITEM	Qty	Qty	Part Number	Description
1	X		D3804-041	SKIDTUBE ASSEMBLY, 206 A/B LOW
2		X	D3804-043	SKIDTUBE ASSEMBLY, 206 A/B HIGH
5	1	1	D2800-1-180	EXTRUSION
6	1	1	D2848	AFT CAP
7	1	1	D2847	CAP
8	18	20	D2849	CROSS BOLT SPACER
9	6	8	D2851-1	PLUG
10	6	8	D2851-3	O-RING
11	1	1	D2854-3	WEB
12	1	1	D2854-1	WEB
13	1	1	D2890-041	NUT PLATE
14	2	2	D3288-1	DOUBLER
15	2	2	D3288-3	STUD
21	2	2	AN860UD10L	WASHER
22	1	1	AN860UD416	WASHER
23	2	2	CCR284SS9-3	RIVET
24	2	2	CR3212-4-03	RIVET
25	52	52	CR3212-4-04	RIVET
26	2	2	MS27039-1-06	SCREW
27	1	1	MS27039-4-06	SCREW

NOTES

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART OSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART OSI 005 4.3
- 3) BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART OSI 005 4.4
- 4) TOLERANCES ARE PER DART OSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: NONE
- 8) WEIGHT: 12.5 lb
- 9) WELD PER DART OSI 004
- 10) BENDING: DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 11) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/291 ADHESIVE PER DART OSI 015
- 12) INSERT D2851-1 PLUG C/W D2851-3 O-RING IN HOLES MARKED "P" (BOTH SIDES OF TUBE)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 160735 U.S.
170503

DEO ATTACHED

RELEASED
H 06.03.03
per Ecn 01-538

REV. 1	NEW ISSUE	DATE	08.07.07
DESIGN	DESCRIPTION	BY	DATE
DRAWN	DART AEROSPACE USA, INC		
CHECKED	PORT HADLOCK, WA		
MFG. APPR.	DRAWING NO.		
APPROVED	D3804		
DATE	TITLE	SCALE	NTS
08.07.07	SKIDTUBE ASSEMBLY, 206A/B		

DEO ATTACHED



DESIGN	92	DART AEROSPACE USA, INC	
DRAWN	2	PORT HADLOCK, WA	
CHECKED	2	REV. A	
MFG. APPR.	2	DRAWING NO.	D5804
APPROVED	2	SHEET 2 OF 5	SCALE
DE APPR.	2	TITLE	SKIDTUBE ASSEMBLY, 206AB
DATE	08.07.07	NITS	

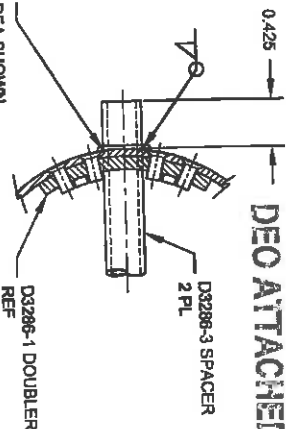
DEO ATTACHED



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00 06 53

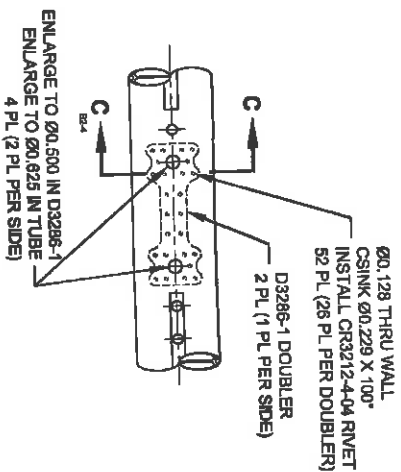
DEO ATTACHED



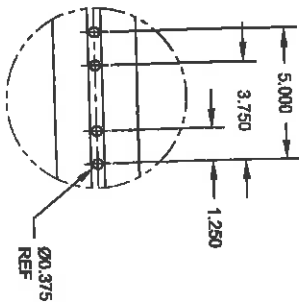
- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH OUTSIDE SURFACE OF ROUNDED TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.03 X 45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE AND GRIND FLUSH

SECTION C-C
PARTIAL SECTION
SCALE NONE

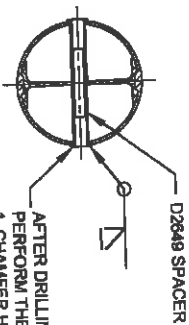
DETAIL B
SCALE NONE



DETAIL A
SCALE NONE



- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.03 X 45°
 2. INSERT D2648 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. BORE TO Ø0.313 X 0.75 DP (EXCEPT WHERE INDICATED)

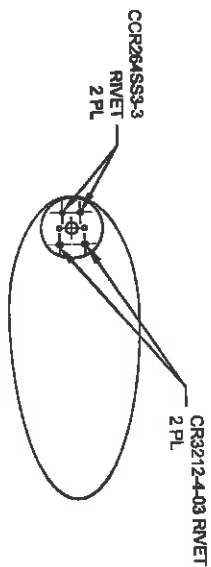


SECTION D-D
FOR Ø0.375 HOLES ONLY
SCALE NONE

DESIGN	9	DART AEROSPACE USA, INC	REV. A
DRAWN	9	PORT HADLOCK, WA	
CHECKED	9		
MFG. APPR.	9		
APPROVED	9		
DE APPR.	9		
DATE	08.07.07		
		TITLE	SKIDTUBE ASSEMBLY, 206A/B
		SCALE	NTS
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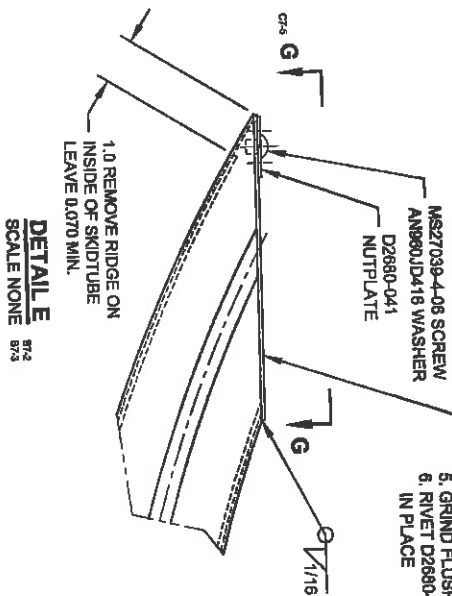
RELEASED
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DEO ATTACHED

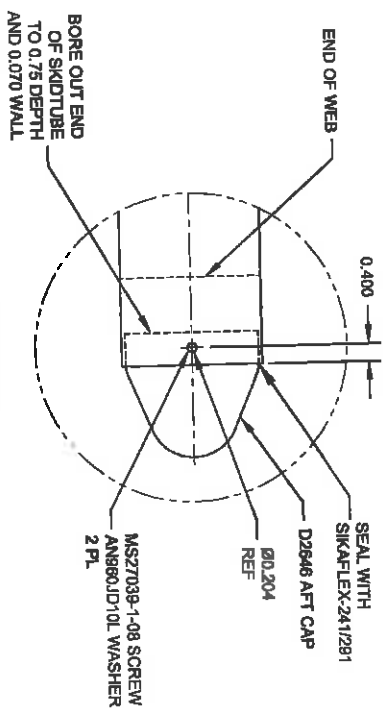


VIEW G-G
SCALE NONE
A7.5

- D2647 CAP, TO INSTALL:
1. CUT TUBE LEVEL.
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D2647 (TRIM AS REQD)
 4. WELD D2647 IN PLACE
 5. GRIND FLUSH
 6. RIVET D2680-041 NUT PLATE IN PLACE



DETAIL E
SCALE NONE
B7.2
B7.3



DETAIL F
SCALE NONE
B2.2
B2.3

DESIGN	44	DART AEROSPACE USA, INC
DRAWN	44	PORT HADLOCK, WA
CHECKED	44	REV. A
MFG. APPR.	44	D3804 SHEET 5 OF 5
APPROVED	44	SCALE
DE APPR.	44	TITLE
DATE	08.07.07	SKIDTUBE ASSEMBLY, 208A/B
		NTS
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DRAWING NO.	TITLE	REV. A	DART AEROSPACE LTD		D.E.O. NO.	SHEET NO.	SCALE
D3804	SKIDTUBE ASSEMBLIES, 206A/B		ENGINEERING ORDER		D3804-A-1	SHEET 1 OF 1	NTS
DRAWN	CP	CHECKED	A.P.	MFG. APPR.	APPROVED	DE APPR.	
DATE	12.10.12	DATE	12.10.22	DATE	12.10.22	DATE	12.10.22

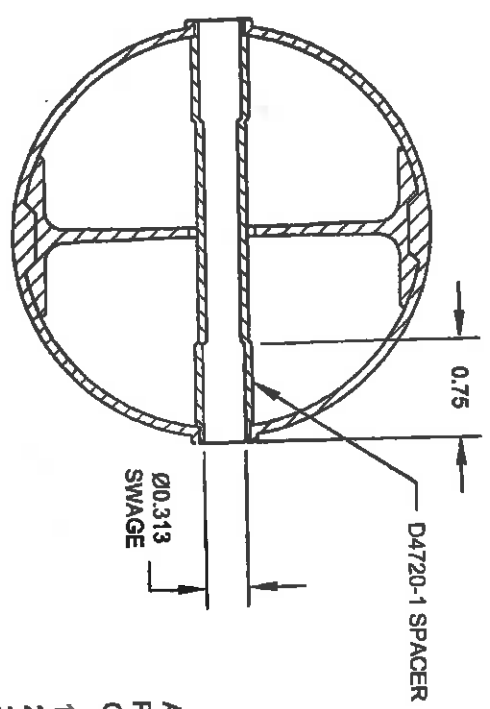
PURPOSE:
CHANGE CBORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:
PARTS LIST IS AMENDED AS FOLLOWS:

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-043		
1	1	D2649	CROSS BOLT SPACER
18	19	D4720-1	SPACER

WAS:		
19	20	D2649
		CROSS BOLT SPACER

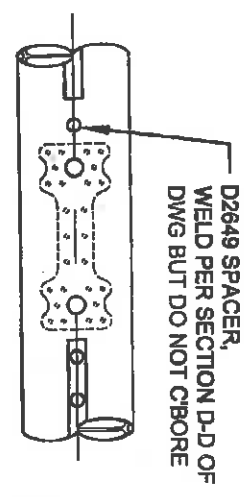
ADD SECTION H-H BELOW, WHICH IS THE SAME SECTION VIEW AS SECTION D-D OF DWG. CBORED HOLES ARE NOW SWAGED PER SECTION H-H BELOW. FOR THE Ø0.375 HOLE THAT IS NOT CBORED, WELD PER SECTION D-D OF DWG (SEE AMENDED DETAIL B FOR REFERENCE).



SECTION H-H

FOR Ø0.375 HOLES ONLY
FOR HOLES THAT ARE CURRENTLY CBORED ONLY
NOT TO SCALE

- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES THAT ARE CURRENTLY CBORED:
1. INSERT D4720-1 SPACER, 18 PL (-041) OR 19 PL (-043)
 2. SWAGE TO Ø0.313 X 0.75 DP PER QSI 002
 3. TRIM / GRIND FLUSH PER QSI 002



DETAIL B
AMENDMENT TO DETAIL B
NOT TO SCALE

Handwritten signature: J. ELEAC
2012-11-16

